

ANNUAL ACTION PLAN **(APRIL 2011 – MARCH 2012)**



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ZPD for TOT projects, Zone – II
Indian Council of Agricultural Research
Salt Lake City, Kolkata



**KRISHI VIGYAN KENDRA
DHANBAD, BALIAPUR FARM
DIST. - DHANBAD-828201
BIRSA AGRICULTURAL UNIVERSITY
RANCHI, JHARKHAND.**

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KRISHI VIGYAN KENDRA, BALIAPUR, DHANBAD

STAFF POSITION

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale with present basic	Date of joining in KVK, Dhanbad	Permanent /Temporary	Category (SC/ST/OBC/Others)
1	Programme Coordinator	Dr. Ashok Kumar	P.C	Agronomy	12000-18300 14520	01.12.07	P	Gen
2	Subject Matter Specialist	Dr. Ajay Kumar Dwivedi	SMS	Horticulture	8000-13500 10750	02.09.08	P	Gen
3	Subject Matter Specialist	Smt. Anjali Mishra	SMS	Home Science	8000-13500 9375	16.01.07	P	Gen
4	Subject Matter Specialist	Sri Rajeev Kumar	SMS	Agril. Engg.	8000-13500 9650	11.12.07	P	Gen
5	Subject Matter Specialist	Dr. Adarsh Kr. Srivastava	SMS	Agril. Extn.	8000-13500 10750	04.04.05	P	Gen
6	Subject Matter Specialist	Sri Navin Kumar	SMS	Plant Protection	8000-13500 9650	11.12.07	P	Gen
7	Subject Matter Specialist	Mrs. Elisma Xaxa	SMS	P.B.G	8000-13500 9100	10.01.08	P	ST
8	Programme Assistant	Sri Raman Kr. Srivastava	Programme Assistant	B. Sc. (Ag.)	5500-9000 6550	01.07.09	P	Gen
9	Computer Programmer	Sri Mithilesh Kumar	Computer Assistant	BCA	5000-8000 5900	18.07.05	P	Gen
10	Farm Manager	Sri Sanjay Kumar	Farm Manager	B. Sc. (Ag.)	5500-9000 6550	01.03.05	P	Gen
11	Technical Assistant	Sri Sunil Kr. Pandey	Tech. Asstt. (A.V. Aids)	-	4000-6000 4600	06.04.05	P	Gen
12	Accountant / Superintendent	Contractual	-	-	Consolidated	-	T	-
13	Stenographer	-do-	-	-	-do-	-	T	-
14	Driver	-do-	-	-	-do-	-	T	-
15	Driver	-do-	-	-	-do-	-	T	-
16	Supporting staff	-do-	-	-	-do-	-	T	-
17	Supporting staff	-do-	-	-	-do-	-	T	-

INTRODUCTION

The Krishi Vigyan Kendra (KVK) is the district level Farm Science centre established by the Indian council of Agricultural Research for speedy transfer of Technology to the farmer's fields. The aim to reduce the time lag between generation of technology at the Research Institutions and its transfer to the farmer's fields to increase productivity and income from agriculture and allied sectors on a sustained basis. In order to achieve this goal, following four mandates have been envisaged in the design of the Krishi Vigyan Kendra.

1. Collaborate with the subject matter specialists of the state Agricultural universities / Scientists of the Regional Research Stations (NARP) and the state Extension Personnel in “on- farm testing”, referring and documenting technologies for developing region specific sustainable land use systems.
2. Organize training to update the Extension Personnel within the area of operation with emerging advances in agricultural research on regular basis.
3. Organize long-term vocational training courses in agriculture and allied vocations for the rural youths with emphasis on “learning by doing” for generating self employment through institutional financing.
4. Organize front- line demonstration in various crops to generate production data and feed back information.

The Indian Council of Agricultural Research reorganized the importance of speedy transfer of technology right from the research laboratories to the farmer's fields right from the start of the green revolution phase in mid sixties. A number of extension education programmes like National Demonstration Project, Krishi Vigyan Kendra, Lab to Land Programme, Operational Research Project and National Agricultural Technology Project (NATP) were started and they played an important role in bringing the research scientists face to face with the farmers. The scientists helped to transfer the technology. These programmes greatly contributed towards increasing the agricultural productivity in different parts of the country.

In 8th Five year plan (1992), all the extension education projects of the ICAR were integrated and merged with the KVKs as per needs of the farming community. The KVKs are now changed with the responsibility of:-

- (i) Testing and verifying the technologies in the socio – economic condition of the farmer's and identifying the production constraints.
- (ii) Promptly demonstrating the latest agricultural technologies to the farmers as well as to the extension workers of the state development departments with a view to reduce the time- lag between the technology generation and its adaptation.
- (iii) Getting the first hand scientific feed- back from the fields and passing it to the research system in order to keep the scientists at least with the performance of the technologies generated by them, so that they reorient this research, education and training programme accordingly.
- (iv) Imparting training to the farmers farm women, rural youth and field level extension functionaries by following the principles of “ Teaching by Doing “ and “ Learning by Doing”,
- (v) Providing training and communication support to the state department of Agriculture / NGO's ; and
- (vi) Based on field work and experience, developing extension models to be adopted by general extension system for large scale multiplication.

The Krishi Vigyan Kendra, Dhanbad, Baliapur was sanctioned in December 2004 and it came under the jurisdiction of **Birsa Agricultural University Kanke, Ranchi-6**

DHANBAD DISTRICT AT A GALANCE

1.	Agro-climatic zone (NARP)	-	IV
2.	Altitude	-	550-670 m
3.	Total Geographical Area	-	204162 ha
4.	Area under Non- Agricultural Use	-	49117 ha
5.	Forest Area	-	19828 ha
6.	Barren and Uncultivable Land	-	32587 ha
7.	Permanent pasture and other grazing land	-	573 ha
8.	Land under miss, trees, crops & Groves	-	3204 ha
9.	Cultivable waste land	-	11377 ha
10.	Fallow land other than current fallow	-	19840 ha
11.	Current fallows	-	30787 ha
12.	Net sown area	-	37749 ha
13.	Area sown more than one	-	4775 ha
14.	Number of sub-division	-	1
15.	Number of blocks	-	8
16.	Average rainfall	-	1275 mm
17.	Cropping intensity (%)	-	110%
18.	Fertilizer use / ha in the district	-	15 Kg

POPULATION DATA OF DHANBAD

1.	Total population	-	2397102
	Male population	-	1278946
	Female population	-	1118156
2.	Total Rural population	-	1142000
	Male	-	693197
	Female	-	448803
3.	Total Urban population	-	1370952
	Male	-	771879
	Female	-	599073
4.	Farming population	-	1303699
5.	Non- Farming population	-	1370952
6.	Total population of scheduled caste	-	415614
	Male	-	220455
	Female	-	195159
7.	Total population of scheduled tribe	-	416514
	Male	-	227718
	Female	-	187896
8.	Literacy Rate of district	-	55.5%
	Male	-	69.5%
	Female	-	37.9%
	Urban Literacy Rate of district	-	68.3%
	Male	-	78.0%
	Female	-	55.2%
	Rural literacy rate	-	41.3%
	Male	-	59.4%
	Female	-	20.2 %

BLOCK WISE POPULATION DATA OF DHANBAD

S.I. No.	Block	Population	% in District
1.	Tundi (East)	124126	5.17
2.	Tundi (West)		
3.	Govindpur	201876	8.42
4.	Nirsa	376843	15.37
5.	Baliapur	124086	4.40
6.	Dhanbad	564468	23.55
7.	Baghmara	476357	17.01
8.	Topchanchi	140378	5.85

PRINCIPAL CROPS OF THE DISTRICT

Sl.No.	Crop	Kharif	Rabi
1.	Cereal	Rice, Maize, Millets	Wheat
2.	Oil seed crop	Groundnut, Niger, sesamum	Rape seed & Mustard, Linseed.
3.	Pulses crop	Red gram, Black gram, Green gram)	Pea, Gram,
4.	Vegetables	Ladyfinger, Cowpea, Cucurbits.	Potato, Tomato, Brinja, Cauliflower, Cabbage, Pea.
5.	Fruits crop	Jackfruit, Mango, Papaya	Guava, Mahua, Aonla

BRIEF AGRICULTURAL SCENARIO OF DHANBAD DISTRICT.

The Dhanbad district is situated at the extreme corner of south east of Jharkhand and is surrounded by Purulia and Burdwan district of West Bengal in east. Jamtara district of Jharkhand in the North and Bokaro district in the west. The district has 8 blocks with total population of 2397102. Out of total population, 15.6% (415614) in SC and 16% (416514) is S.T. The position of the district in the state is shown in Map.

Total geographical area of the district is 204162 ha. About 24.1% of the total area of the district is under non- agricultural use while 18.5 % is under plough. The district is a rich source of coal. The district has only one sub- division i.e. Dhanbad and 8 blocks with head quarters at Dhanbad. Annual rainfall varies from 1200 mm to 1400 mm. The maximum temperature goes up to 47⁰ C in summer and falls to as low as 8⁰ C in Winter. The district has at present 18928 ha of forest area. Approximately 1303699 (48.7%) people are engaged in agriculture and 1370952 (51.2%) are engaged in industrial Field.

SOILS OF THE DISTRICT

The district has mostly poor and infertile laterite soils. Alluvial deposits occur at the confluence of the Damodar and Barakar rivers. The soils of the district are broadly classified into four groups according to the texture:-

- (i) Stony and gravelly found near the foot hills.
- (ii) Sandy soil- locally known as balu found in the river soils.
- (iii) Loamy soil – found near the hills, and
- (iv) Clay soil- found near the tanks and rivers which is very productive.

CROPS OF THE DISTRICT:-

The major crops grown in the district are paddy maize, Finger millet, Mustard, Chickpea, Potato and Onion, Mango, Guava, jack fruit and Sapota and other fruit crops and vegetables are also grown in the district. The cropping intensity of the district is 112%. The area and the productivity of the major field crops are indicated below:-

Crop	Area (ha)	Productivity (Q / ha)
Summer Rice	148	9.3
Kharif Rice	36051	17
Maize	1590	22
Wheat	800	15
Finger millet	158	7.2
Chick pea	47	4.9
Potato	99	93.7
Onion	14	88.6

Irrigation facilities:

The rivers and streams of the district are flowing through the hilly areas and cannot be used for irrigation unless water is compounded. The slope of the land is such that rain water quickly after a spell of rain and most of the streams dry almost completely after the rainy season. Wells are difficult and expensive to dig because of presence of hard rock close to the surface. Rain water is stored in Ahars or reservoirs and then led to the field by channels and sub- channels. Uplands are genially not irrigated recently, number of medium and minor irrigation schemes have been taken up and executed in order to ensure a regular source of water supply.

Major Agricultural Problems of the District

For the rapid development of an area through agriculture, provision of irrigation facility is essential. The district possessing hills and rolling topography cannot be brought under rural command irrigation system. High level bunds, water reservoir projects, large diameter wells and intake wells are the only solution for the area. However, all these reservoirs together, cover an area of about 5% of the total cultivable land. Therefore, farmers of the district are almost entirely development on rains for agriculture, hence mono cropping is predominant. The crop production practices are primitive and traditional.

1. The district gets fairly high amount (1200- 1400 mm) of rainfall but the distribution is highly erratic and 90 % of it is mainly received during the four monsoon months June to September. Even within this period, drought spells of 4 to 6 week duration are not uncommon causing water stress.
2. Soil erosion is a menace and every year fairly substantial area of land is converted into gullies. The problem of soil erosion is getting aggravated due to faulty method of cultivation leading to land degradation.
3. Availability of quality seeds and planning materials continue to be major constraints in farming. Indigenous breeds of livestock on common. The use of improved agricultural implements in the district is almost negligible.
4. The cattle population is generally very poor, short in stature having low milk yielding capacity and low draft power. The genetic stock of other animals like goats, sheep, pigs and poultry is also very poor. There is scarcity of animal's feeds and fodder. The crop residues are mainly used as animal feed.
5. There has been very weak linkage between research, extension, education, credit system etc. to agricultural development.
6. Excessive dependence on the rice in all forming situations makes agricultural production highly vulnerable to vagaries of weather. Excessive weed pressure, particularly in direct seeded crops, seriously hampers crops production.
7. Lack of risk taking capacity of the farmer's due to poverty and on farm resource availability leads to the exclusion of the needed agricultural inputs, In desire quality.

8. Stray Cattle grazing in the Rabi Season severely limits the introduction of Rabi crops, during winter, hence mono cropping.
9. Absently land lordism- the land lords themselves are not involved in farming. They employ labour and get the work done. The labour in turn, gets paid a fix amount of wages on the basis of cultivated area which is not linked with productivity and production per unit area.
10. Unawareness about post harvest practices, hence lost of produce and handling storage.
11. Unhealthy attitude towards development projects mainly due to :-
 - ❖ The farmers depend on subsidy.
 - ❖ Their extra vacancy in social customs.
 - ❖ Improper use of available loan.
 - ❖ Lack of trust in extension agencies.
 - ❖ Lack of Plasticity in the agricultural systems and approach pre clued adoption of mid term corrective measures.

Thrust areas identified through PRA, Survey or any other method

- i) Improvement of soil and water conservation practices
- ii) Management of problematic soils
- iii) Improvement in crop productivity
- iv) Improvement in yield of mono crop rice/paddy
- v) Diversification of traditional rice-based cropping system with appropriate commercialization
- vi) Breed Improvement of cattle, pig and goat
- vii) Popularization of IPM measures for field and Horticultural crops
- viii) Introduction of post harvest & value addition technology
- ix) Entrepreneurship development of SHG groups.

Abstract of the training program proposed during 2011 to 2012.

A. Vocational Training for Practicing Farmers/Farm woman.

S.No.	Discipline	No. of courses	Duration/ days	Total no. of participants	Total no. of trainee days.
1.	Crop Production	09	18	180	360
2.	Horticulture	06	12	120	240
3.	Home Science / Women empowerment	12	29	110	390
4.	Plant Protection	03	06	60	120
5.	Production of inputs at site	03	06	60	120
6.	Capacity building and Group dynamics	08	16	120	320
	Total	40	85	630	1540
B. Vocation Training for Rural Youth and Women					
1.	Mushroom Production	02	14	40	280
2.	Horticulture	02	20	40	400
3.	Seed production	02	14	40	280
4.	Production of organic inputs	02	14	40	280
5.	Tailoring and Stitching	01	10	20	200
6.	Para extension workers	02	14	40	280
	Total	11	86	220	1720
C. Vocational Training for Extension Functionaries					
1.	Productivity enhancement in field crops	01	02	20	40
2.	Integrated Nutrient management	01	02	20	40
3.	Productivity enhancement in horticultural crops	01	02	20	40
4.	Group Dynamics and farmers organization	01	01	20	20
5.	House hold food security	02	02	40	100
	Total	06	09	120	240
	Grand Total	57	142	970	3500

A. Training program for practicing farmers and farm women.

Discipline	Month/ Year	Course Title	Objective	Venue	Duration /days	No. of course	No. of Trainee days	Beneficiaries							
								SC		ST		Others		Total	
								M	F	M	F	M	F	M	F
Crop Production	April 2011 to June 2011	Nursery raising for rice crop	To create awareness about proper seeding method & seed rate for rice nursery.	On campus	02	01	40	01	01	04	04	05	05	10	10
		Hybrid red gram cultivation.	To improve the yield of red gram.	On campus	02	01	30	01	01	04	04	05	05	10	10
		Lime application in acidic soil	To create awareness about limimg in soils.	On campus	02	01	40	02	-	08	-	10	-	20	-
		Application of BGA in paddy	To create awareness about low cast manures application	On campus	02	01	40	02	-	08	-	10	-	20	-
Production of inputs at site	-do-	Seed production of Rice and its registration	To create awareness among the farmers for producing pure & healthy seed.	ON campus	02	01	40	02	-	08	-	10	-	20	-
Horticulture	-do-	Cutting practice in horticultural plants.	To get acquaint with cutting practice of horticultural crop	On campus	02	01	40	02	01	03	01	10	03	15	05
Plant Protection	-do-	Integrated pest management in Paddy.	To increase maximum yield.	OFF campus	02	02	40	02	01	06	02	08	01	16	04
Agril. Extn./ capacity building & group dynamics	-do-	Crop insurance scheme in Kharif	To minimize the risk factor among farmers	OFF campus	02	01	40	01	-	04	-	15	-	20	-
		SRI method of paddy cultivation	To increase knowledge about SRI method of paddy cultivation among farmers	On campus	02	01	40	02	-	08	-	10	-	20	-
		Marketing of agricultural produce	To create awareness about market price policy and system of marketing.	On campus	02	01	40	2	-	8	-	10	-	20	-
		Use of Rhizobium culture in pulses.	To save nitrogenous fertilizer as well as to improve soil health	ON campus	02	01	40	02	-	08	-	10	-	20	-
Women em- powerment	-do-	Value addition in Amla & Bel		ON campus	04	01	30	-	04	-	06	-	10	-	20
Crop Production	July 11 to Sep-11	Practices of SRI method of rice	To improve yield of rice at low chemical fertilizer level	ON campus	02	01	40	02	01	06	01	08	02	16	04
		Designing crops for the changing climate	To increase knowledge for the cultivation of crop in changing climate	ON campus	02	01	40	02	01	06	01	08	02	16	04
Production of inputs at	-do-	Seed production of Rice	To create awareness among the farmers for producing pure &	ON campus	02	01	40	02	-	06	-	10	02	18	02

site			healthy seed.													
Horticulture	-do-	Nursery management of cole crops	Healthy seedling production of cole crops	On campus	02	01	40	07	-	03	-	10	-	20	-	
Plant Protection	-do-	Important disease of Brinjal & its management	To increase yield of Brinjal & low use of insecticides & pesticides	OFF campus	02	02	40	01	-	04	-	15	-	20	-	
Agril. Extn./ capacity building & group dynamics	-do-	Formation of Kisan club	To create awareness among farmers for dissemination of new technology	OFF campus	02	01	40	01	-	04	-	15	-	20	-	
		Formation and economic empowerment of SHG	To establish and make economic sustainability of SHG	On campus	02	01	04	01	-	04	-	15	-	20	-	
Crop Production	Oct-11 to Dec-11	Use of Rhizobium culture in Pulses	To increase knowledge & skill for nitrogen fixation & soil health	On campus	02	01	40	02	-	08	-	10	-	20	-	
		SWI	To increase the productivity of wheat.	On campus	02	01	40	02	-	08	-	10	-	20	-	
Production of inputs at site	-do-	Seed production of Wheat	To create awareness among the farmers for producing pure & healthy seed.	ON campus	02	01	40	01	-	04	-	15	-	20	-	
Horticulture	-do-	Pruning in Horticulture crops	To regulate crop and get higher yield	On campus	02	01	40	02	01	03	01	10	03	15	05	
Plant Protection	-do-	Disease and pest management in Cole crops.	To increase production of Cole crops	ON campus	03	01	60	02	01	03	01	10	03	15	05	
Agril. Extn./ capacity building & group dynamics	-do-	Crop insurance scheme in Rabi crops	To minimize the risk factor in farming.	ON campus	02	01	20	03	01	02	01	10	03	15	05	
Home Science women empowerment	-do-	Preservation of local and seasonal fruits	To consume and make better use of surplus & seasonal fruits	ON campus	08	04	60	-	02	-	06	-	12	-	20	
Crop Production	Jan-12 to March-12	Irrigation management in wheat	To increase the production of wheat.	ON campus	02	01	40	-	-	03	02	12	03	15	05	
Horticulture	-do-	Canopy Management in Fruit Crops	For uniform flowering and fruiting	Off campus	02	01	40	02	01	03	01	10	03	15	05	
Plant Protection	-do-	Disease & pest management in cucurbits	Increase the productivity of cucurbits.	ON campus	03	01	60	02	01	03	01	10	03	15	05	
Agril. Extn. / capacity	-do-	Book-keeping, linking the Self Help Group with	To develop skill for maintenance of records and with books for	ON campus	02	01	40	02	01	03	01	10	03	15	05	

building & group dynamics		Bank	credit faculty												
Home Science/ women empowerment	-do-	Pico and sare fall stitching	To save the money from market use	ON campus	03	01	20	-	02	-	06	-	12	-	20
		Hand embroidery	To increase the value of particular item	On campus	07	01	140	-	02	-	06	-	12	-	20
		Knitting of pullova	Skill development for income generation.	On campus	07	01	140	-	02	-	06	-	12	-	20

(B). Income and employment generating training program for rural youth and women

Discipline	Month/ Year	Course Title	Objective	Venue	Duration /days	No. of course	No. of Trainee days	Beneficiaries							
								SC		ST		Others		Total	
								M	F	M	F	M	F	M	F
Seed Production	April 2011 to March 2012	Good quality rice seed production in villages	To create awareness for increasing their economic condition and self employment	ON campus	07	02	280	04	-	12	04	16	04	32	08
Production of organic inputs	-do-	Vermi composting	Entrepreneurship development	On campus	07	02	280	02	-	08	02	20	08	30	10
Para extension works	-do-	Marketing strategy of mushroom production and organic inputs	To provide knowledge of marketing strategy	ON campus	07	02	280	02	-	08	-	30	-	40	-
Tailoring & stitching	-do-	Garment stitching	Skill development for income generation	ON campus	10	01	200	-	02	-	08	-	10	-	20
Horticulture	-Do-	Protected floriculture & gardening	Entrepreneurship development	On campus	10	02	400	04	-	08	-	12	08	24	16
Mushroom cultivation	-do-	Production technique of Oyster mushroom	To increase income and employment opportunity	ON campus	07	02	280	04	-	12	-	20	04	36	04

(C). Training Programme for Extension Functionaries/ In-Service Training Programme

Discipline	Month/ Year	Course Title	Objective	Venue	Duration/ days	No. of course	No. of Trainee days	Beneficiaries							
								SC		ST		Others		Total	
								M	F	M	F	M	F	M	F
Productivity enhancement in field crops	April-11 to June-11	Technology advances in production technology of scented and hybrid rice	To create awareness about scented hybrid rice	ON campus	02	01	40	02	01	04	01	09	03	15	05
Household food security	July-11 to Dec-11	Growing of tissue cultured plants	To create awareness about tissue cultured plants.	ON campus	02	01	60	02	01	04	01	09	03	15	05
Group dynamics and farmers organization	-Do-	Management of Self Help Groups	To increase income of Self Help Groups	ON campus	01	01	20	02	01	04	01	09	03	15	05
Household food security	-Do-	Importance of vegetable crops in human diet	For proper growth of human body	On campus	02	01	40	02	01	04	01	09	03	15	05
Integrated nutrient management	Jan-12 to March-12	Organic farming	To discourage excessive use of inorganic fertilizers with sustaining soil health	ON campus	02	01	40	02	01	04	01	09	03	15	05
Horticulture	-Do-	Low-cost green house-cum-rain shelter for raising off season vegetable	To create awareness for protected vegetable cultivation.	On campus	2	01	40	02	01	04	01	09	03	15	05
Water management	-do-	Increase water use efficiency	To increase water use efficiency by different irrigation methods suited for different crop	OFF campus	02	01	40	02	01	04	01	09	03	15	05

Front line demonstration of Oilseeds & Pulses

Sl. No.	Crop	Area (ha)
(A). Season (Kharif 2011)		
1.	Groundnut	15
2.	Sesame	10
3.	Niger	05
4.	Pigeon pea	10
5.	Green gram	05
6.	Black gram	05
7.	Horse gram	10
(B). Season (Rabi 2011 - 12)		
1.	Mustard	15
2.	Toria	05
3.	Linseed	10
4.	Chick pea	15
5.	Lentil	5
(C). Season (Summer 2012)		
1.	Sesame	5
2.	Groundnut	5
3.	Green gram	05
4.	Black gram	05

Front line demonstration (Other than Oilseeds & Pulses)

Sl. No.	Crop	Area (ha.)/No.
(A). Season (Kharif 2011)		
1.	Rice	5.0
2.	Maize	5.0
3.	Vegetable	5.0
4.	Small implements	100(No.)
5.	Biofertilizer	50 pkt.
(B). Season (Rabi 2011 - 12)		
1.	Wheat	5.0
2.	Vegetable	5.0
3.	Vermicompost	5.0 q
4.	Biofertilizer	50 pkt
5.	Horticultural plants	25000 (No.)
6.	Mini parboiling unit for paddy	1 unit

ON FARM TRIAL

TITLE: - WEED MANAGEMENT IN WHEAT.

1. **Problem identified: -** Low yield of wheat.
2. **Causes: -**
 - I. High infestation of broad leaved weeds like (pig weed) *chinopodium album*, *wild palak (Rumex dentatus)*
 - II. Considerable infestation of narrow leaved weeds like *Avena fatua*L, *phalaris*, *minor ritz*, *cynodon dactylon*, *cyperus*, *rotendus*.
 - III. Imbalance use of chemical fertilizer
 - IV. Lack of optimum irrigation water.
 - V. Low investment power of farmer
 - VI. Lack of knowledge
3. **Hypothesis: -** Application of proper weedicide may control the both type (narrow & broad leaved) weeds.
4. **Treatment: -**
 - T₁- Control (No weeding either chemically or manually)
 - T₂- Application of 2 – 4 D 80wp @625 gm/ha + Isoproturone 75% @ 1.0 kg/ha at 25-30 DAS.
 - T₃- Application of Metribuzin @250g/ha at 25-30 DAS.
5. **Source of technology: -** B.A.U. & other State Agril. Universities.
6. **Season: -** Rabi 2010 - 11 & 2011 – 12.
7. **Design: -** RBD.
8. **Replication: -** 10
9. **Plot size: -** 1000 m².
10. **Observations: -**
 - I. No. of weeds /m²
 - II. Yield & yield attributes
 - III. Soil chemical analysis
 - IV. Economics
11. **Input provided: -** Seed & weedicide.
12. **Coordinating scientists: -** Dr. Ashok Kr, Dr. A. K. Srivastava & Mrs. E. Xaxa.

ON FARM TRIAL

TITLE: - INCREASING THE PRODUCTIVITY & PROFITABILITY OF PIGEON PEA BASED CROPPING SYSTEM UNDER RAINFED UPLAND SITUATION.

- 1. Problem identified: -** Low productivity & profitability from pigeon pea cultivation.
- 2. Cause: -**
 - I. Sole cultivation.
 - II. Rainfed cultivation and no application of irrigation after recession of monsoon.
 - III. Imbalance use of fertilizer.
 - IV. Infestation of pod borer during pod formation.
 - V. Lack of knowledge.
- 3. Hypothesis: -** Proper intercropping under pigeon pea may increase the productivity and profitability of the system by utilizing maximum rain water during kharif season.
- 4. Treatment: -**
 - T₁ - Sole pigeon pea (Row to Row 60-75 cm)
 - T₂ - Pigeon pea + Turmeric (1:1) at 75 cm row to row distance.
 - T₃ - Pigeon pea + Ground nut (1:1) at 75 cm row to row distance.
 - T₄ - Pigeon pea + Black gram (1:1) at 75 cm row to row distance.
- 5. Source of technology: -** Rajendra Agril. University, Pusa & BAU, Ranchi.
- 6. Season: -** Kharif 2010 and Kharif 2011.
- 7. Design: -** RBD
- 8. Replication: -** 10.
- 9. Plot size: -** 500 m².
- 10. Observation: -**
 - I. Yield & yield attributes
 - II. Yield equivalence
 - III. Economics
 - IV. Chemical soil analysis.
- 11. Input provided: -** Seed & plant protection measures.
- 12. Coordinating Scientists: -** Dr. Ashok Kumar, Dr. A. K. Srivastava & Mrs. E.Xaxa.

ON FARM TRIAL

TITLE: EFFECT OF SOWING OF WHEAT ON EARTHEN BAND UNDER SWI.

- 1. Problem identified:** Low productivity as compared to yield potential.
- 2. Cause:** (i). Sub optimal root growth due to compactness of soil.
 (ii). High irrigation water application.
- 3. Hypothesis:** Refinement in SWI may further increase the wheat productivity with decrease in irrigation water.
- 4. Treatment:**
 - T₁ – Farmers practice.
 - T₂ – Recommended practice.
 - T₃ – Cultivation under SWI.
 - T₄ – Cultivation under refined SWI.

T₁ Farmers practice (Sowing by broadcasting the seed and no weeding practice and irrigation as per need of crops, N, P₂O₅ & K₂O::50:20:0 kg/ha.)

T₂ Recommended practice (sowing in line at 20 cm, weeding after Ist irrigation at 30-35 DAS, N: P₂O₅: K₂O:: 100:60:40 kg/ha & irrigation at critical stages).

T₃ Cultivation under SWI (Sowing 2 sprouted seeds at 20cm x 20cm spacings, 3 mechanical weedings after 1st, 2nd and 3rd irrigations, 6 irrigations at 15, 25, 40, 60, 80 and 100 DAS, 50q compost + 10q vermin compost + 68 kg DAP + 33 kg MOP per hectare as basal + 100 kg urea/ha at 1st irrigation and 37.5 kg urea/ha + 33 kg MOP/ha at 3rd irrigation.

T₄ T₃ on earthen band.
- 5. Source of technology:** State Agriculture Universities.
- 6. Season:** Rabi 2011-12 and 2012-13.
- 7. Design:** RBD.
- 8. Replication:** 8.
- 9. Plot size:** 100 m².
- 10. Observation:**
 - I. No. of effective tillers.
 - II. Length of spike
 - III. Yield
 - IV. Economics
 - V. Chemical soil analysis.
- 11. Input provided:** Seed, Vermi compost, Weeding equipment.
- 12. Coordinating Scientists:** Dr. Ashok Kumar, Dr. A. K. Srivastava, Dr. A. K. Dwivedi & Sri Raman Kumar.

ON FARM TRIAL

TITLE: - PERFORMANCE ASSESSMENT OF DIFFERENT CHICK PEA VARIETIES UNDER LATE SOWN IRRIGATED CONDITION AFTER PADDY.

- 1. Problem identified: -** Low yield of late sown irrigated chick pea.
- 2. Cause: -** Cultivation of low yielding unsuitable varieties under late sown condition.
- 3. Hypothesis: -** Cultivation of high yielding improved varieties suitable for late sown irrigated condition may increased the yield of chick pea.
- 4. Treatment: -**
T₁ - Farmers practice (C-235)
T₂ - Pant G-114
T₃ - KPG-59 (Uday)
T₄ - BG-372
- 5. Source of technology: -** IARI & GBPUAT.
- 6. Season: -** Rabi 2010 – 11 & 2011 – 12
- 7. Design: -** RBD.
- 8. Replication: -** 10.
- 9. Plot size: -** 500 m².
- 10. Observations: -**
 - I. Yield attributes,
 - II. Yield,
 - III. Economics,
 - IV. Chemical soil analysis.
- 11. Input provided: -** Seed & seed treatment inputs.
- 12. Coordinating Scientists: -** Mrs. Elisma Xaxa, Dr. Ashok Kumar,
Dr. A.K. Srivastava.

ON FARM TRIAL

TITLE: - PERFORMANCE ASSESSMENT OF DIFFERENT KHARIF MAIZE VARIETIES UNDER UPLAND RAINFED CONDITION.

- 1. Problem identified: -** Low yield of kharif maize.
- 2. Cause: -** Cultivation of low yielding maize varieties.
- 3. Hypothesis: -** Cultivation of high yielding improved varieties, may increased the yield of maize.
- 4. Treatment: -**
T₁ – Farmers practice (Non descript)
T₂ – Suwan composite.
T₃ – HQPM -1
T₄ – BVM-2
- 5. Source of technology: -** BAU, Ranchi & IARI, Delhi.
- 6. Season: -** Kharif 2010 and 2011.
- 7. Design: -** RBD.
- 8. Replication: -** 10.
- 9. Plot size: -** 1000 m².
- 10. Observations: -**
 - I. Yield attributes,
 - II. Yield,
 - III. Economics,
 - IV. Chemical & soil analysis.
- 11. Input provided: -** Seed & seed treatment inputs.
- 12. Coordinating Scientists: -** Mrs. E. Xaxa, Dr. Ashok Kumar, Dr. A.K. Srivastava.

ON FARM TRIAL

**TITLE: INCREASING THE LADY'S FINGER YEILD BY CULTIVATING
YELLOW VAIN MOSAIC RESISTANT VARIETIES.**

- 1. Problem identified:** Yield reduction due to mortality of plants.
- 2. Cause:**
 1. Infestation of yellow vain mosaic in standing plants.
- 3. Hypothesis:** Cultivation of yellow vain mosaic resistant varieties may save the plants and ultimately will increase the yield.
- 4. Treatments:**
 - T₁ - farmers practice (Tulsi)
 - T₂ - VRO-5
 - T₃ - VRO-6
- 5. Source of technology:** IIVR, Varanasi, U.P.
- 6. Season:** Kharif 2011 & 2012.
- 7. Design:** RBD.
- 8. Replication:** 8.
- 9. Plot size:** 150 m².
- 10. Observations:**
 - I. Plant stand at regular interval.
 - II. Fruit weight.
 - III. Duration of first harvest
 - IV. Yield
 - V. Economics
 - VI. Chemical soil analysis.
- 11. Input provided:** Seed & pesticides.
- 12. Coordinating Scientists: -** Dr. A. K. Dwivedi & Dr. Ashok Kr.

ON FARM TRIAL

**TITLE: INCREASING THE GARDEN PEA YEILD BY CULTIVATING
POWDERY MILDEW RESISTANT VARIETIES.**

- 1. Problem identified:** Yield reduction due to powdery mildew in pea plants.
- 2. Cause:**
 - I. Infestation of powdery mildew in standing plants.
- 3. Hypothesis:** Cultivation of powdery mildew resistant varieties may save the plants and ultimately will increase the yield.
- 4. Treatments:**
 - T₁ - Farmers practice (A.P. - 1)
 - T₂ - Swarna Amar
 - T₃ - Swarna Mukti
- 5. Source of technology:** IIHR, Bangalore & HARP, Plandu, Ranchi.
- 6. Season:** Rabi 2010 – 11 & Rabi 2011 – 12.
- 7. Design:** RBD.
- 8. Replication:** 8.
- 9. Plot size:** 150 m².
- 10. Observations:**
 - I. Plant stand at regular interval.
 - II. Pod.
 - III. Duration of first harvest.
 - IV. Yield
 - V. Economics
 - VI. Chemical soil analysis.
- 11. Input provided:** Seed & pesticides.
- 12. Coordinating Scientists:** - Dr. A. K. Dwivedi & Dr. Ashok Kr.

ON FARM TRIAL

TITLE: - EFFECT OF SRI METHOD IN BOOSTING PADDY PRODUCTIVITY.

1. **Problem identified:** - Low productivity of rice.
2. **Cause:** - Lack of knowledge about scientific method of rice cultivation.
3. **Hypothesis:** - Cultivation of rice by SRI technology may increase the rice productivity.
4. **Treatment:** -
 - T₁ - Farmers practice under Naveen.
 - T₂ - Half parameters of SRI technology under Naveen.
 - i. Age of seedling ii. Spacing
 - iii. Seed rate
 - T₃ - Full parameters of SRI technology under Naveen.

Note: - Parameters of SRI =
 - i. Age of seedling - 10 – 12 days
 - ii. Spacing - 25 x 25 cm.
 - iii. Seed rate - 5 – 6 kg/ha.
 - iv. No. Of seedling per hill – One.
 - v. Irrigation - after 6 days of disappearance of water from field.
 - vi. Weeding – At 10 – 12 days after 30 days of transplanting.
5. **Source of technology:** - Fr. Henri de Laulanie a French priest of Madagascar.
6. **Season:** - Kharif 2010 and 2011.
7. **Design:** - RBD.
8. **Replication:** - 10.
9. **Plot size:** - 500 m²
10. **Observations:** -
 - I. Effective tiller per plant
 - II. Length of panicle
 - III. Productivity (q/ha)
 - IV. Economics
 - V. Soil chemical analysis (pre transplant and post harvest)
11. **Input provided:** Seed and cono weeder.
12. **Coordinating Scientists:** - Dr. A.K. Srivastava, Dr. Ashok Kumar.

ON FARM TRIAL

TITLE: - EFFECTIVENESS OF JANTA SHITAK STORAGE ON GREEN / PERISHABLE VEGETABLES.

1. **Problem identified:** - High decay of green vegetables.
2. **Cause:-**
 - I. Perishable in nature
 - II. Lack of storage facilities at village level.
 - III. Lack of knowledge for its preservation
3. **Hypothesis:** - Use of Janta Shitak storage may reduce the decay of green vegetables.
4. **Treatment: -**
 - T₁ – Use of Bamboo's baskets (Control).
 - T₂ – Use of Janta Shitak on sand at floor level.
 - T₃ – Use of Janta Shitak at 2 feet underground with its side filled by sand.
5. **Source of technology:** Department of Home Science, U.S. Dharwad.
6. **Season: -** Whole year (2010 and 2011).
7. **Design: -** RBD.
8. **Replication: -** 10 farmers.
9. **Sample size: -** One farmer.
10. **Observation: -**
 - I. Change in colour.
 - II. Change in freshness.
 - III. Shelf life of vegetables
 - IV. Rate of decay of veg.
11. **Coordinating scientists: -** Smt. Anjali Mishra.

ON FARM TRIAL

TITLE: NUTRITIONAL TREATMENT OF THE FARM WOMEN SUFFERING FROM NUTRITIONAL ANEMIA.

- 1. Problem identified:** Nutritional anemia among farm women.

- 2. Cause:**

1. Lack of proper iron rich diet.
2. Prevalence of infestation & worm infestation.
3. Frequent pregnancy & less birth spacing.
4. Large family size.
5. Lack of knowledge/ignorance.
6. Lack of quality protein foods, iron enhances.

- ### 3. Treatments:

T₁ - Farm women practices (Traditional food practice)

T₂ - T₁ + 1 Laddu / day (Roasted groundnut + Jagery)
50 gm 50 gm
As per RDA recommendation.

T₃ - Supply of iron rich veg: i.e. – Palak, methi, sahjan patta, drum stick with pulses (100 gm/day) + IFA tablets/day.

- #### 4. Source of technology: Discussion on PRA.

5. **Season:** Whole year.

- 6. Replication: 10.**

7. **Sample size:** 30 Women.

- ## 8. Observations:

- I. Hb percentage (Pre & post)
- II. Body weight
- III. Heart rate
- IV. Blood pressure.

- 9. Coordinating Scientists: - Smt. Anjali Mishra.**

Extra Extension Activities

Activities/sub-activities	Quarter wise area/no.				Beneficiaries No											
	I	II	III	IV	I			II			III			IV		
					SC	ST	O	SC	ST	O	SC	ST	O	SC	ST	O
1. Field days (No.)	2	2	2	2	20	30	50	20	30	50	20	30	50	20	30	250
2. Exhibitions/fair (No.)	-	-	1	1	-	-	-	-	-	-	100	200	500	100	200	500
3. Diagnostic services (No.)	5	5	5	5	10	20	30	10	20	30	10	20	30	10	20	30
4. Clinic centers (No.)	1	1	1	1	5	10	15	5	10	15	5	10	15	5	10	15
5. Advisory/enquiry (No.)	25	25	50	50	5	10	10	5	10	10	10	20	20	10	20	20
6. Publication/distribution (No.)	5	5	5	5	100	400	500	100	400	500	100	400	500	100	400	500
7. Farm science club (No.)	-	1	1	1	-	-	-	3	5	8	4	4	10	4	3	10
8. Farmers – Scientists interaction programme	1	1	1	1	8	32	40	8	32	40	8	32	40	8	32	40
9. Ex – Trainees meet		1		1	-	-	-	20	60	120	-	-	-	20	60	1

Activities on instructional farm

1. Seed production (Kharif 2011): -

Sl. No.	Crop	Varieties	Area (ha.)
1.	Rice	Swarna BPT- 5204 Lalat Birsamati	1.5 0.5 0.5 0.5
2.	Pigeon pea	Birsa Arhar-1/ Bahar	0.5
3.	Groundnut	Birsa Bold	0.5
4.	Black gram	Birsa Urad -1	0.4

2. Seed production (Rabi 2011-12): -

Sl. No.	Crop	Varieties	Area (ha.)
1.	Wheat	K 9107	0.4
2.	Wheat	HUW-468	0.4
3.	Gram	Pusa 362	0.5

3. Production of planting materials (From tissue culture laboratory).

Sl. No.	Crop	Varieties	Number
1.	Banana	Different varieties	1.0 Lakh
2.	Guava	Different varieties	1000
3.	Flower (If demand)	As per demand	As per demand

4. Bio-fertilizer production (From Bio-fertilizer unit)

Sl. No.	Crop	Varieties	Packets
1.	Rhizobium culture packets	For different pulse crops	As per demand
2.	PSB culture packets	-	As per demand

5. Vermi compost production (From vermi compost unit): - 10 quintals.

6. Mushroom production (From mushroom unit)

- I. Oyster mushroom Different varieties 50 Kg.
- II. Spawn production - 100 pkt.

7. Soil testing from soil testing laboratory – 400 samples.

8. Technological park – 0.2 ha.

9. Medicinal park – 0.1 ha.

Budget Demand (2011 – 12)

Sl.No.	Head	Budget (in Lakh)
(A). Recurring:		
1.	Pay and allowance	60.00
2.	T.A.	2.00
3.	Contingency	
	I. Stationary, telephone, postage, electricity & other office charges.	8.00
	II. POL, repair of vehicle, tractor & equipment.	2.00
	III. Training of farmers	5.00
	IV. Training materials	3.00
	V. Training of extension functionaries	1.00
	VI. Training of rural youth	5.00
	VII. FLD (oilseed & pulses)	7.00
	VIII. FLD (other than oilseed & pulses)	5.00
	IX. On farm testing	1.50
	X. Soil water testing lab	1.00
	Total (3 – I to X)	38.50
4.	Maintenance of building	4.00
	Total (A)	112.50
(B). Non – recurring.		
1.	Equipments and furniture	5.00
2.	Library	1.00
	Total (B)	6.00
	Total (A + B)	118.50